RS-8509-04

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International Specialists in the Environment

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M E M O R A N D U M

DATE: May 15, 1985

TO: File

FROM: Kevin Phillips

SUBJECT: Laclede Steel/Alton, IL.
TDD #R05-8303-1F IL0145
Wood River Discontinuity

The purpose of this memo is to show that the Wood River does not form a discontinuity in the aquifer of concern at the Laclede Steel Site (Township 5 North Range 9 West Section 20), thereby allowing the populations of East Alton, Wood River and Rosewood Heights to be counted as "Population Served" in the Groundwater Route HRS score.

Geologic Setting

The Laclede Steel Site is located on the Alluvial/Flood Plain Valley of the Mississippi River, locally known as the "American Bottoms". In general the American Bottoms consists of recent fine-grained alluvium and glacial valley-train deposits, up to 170 feet thick, which overlie Mississippian or Pennsylvania age limestone and dolomite bedrock. The surficial geology in the area can be separated into two district geologic deposits. The Cahokia alluvium, primarily clayey silt and silty clay of late Wisconsinan and Holoene ages forms the silty, clayey surficial soils. Usually 10-30 feet thick, it overlies the Henry Formation, a Wisconsinan age sand and gravel deposit. The Henry Formation is 100'-150' thick and forms the principal aquifer from which numerous municipalities draw their water. The Henry Formation also is the "Aquifer of Concern" for the Laclede Steel Site.

Groundwater Usage

The three mile radius around Laclede's includes the cities of Alton, East Alton, Wood River, and Rosewood Heights. With the exception of Alton, which uses Mississippi River water from an intake greater than 3 miles away, all of these cities use groundwater from the Henry Formation to provide drinking water to their populations. Phone logs in our file document the locations of East Alton and Wood River wells to be on the east side of the Wood River. These two municipalities have a total of 9 wells, all finished in sand and gravel of the Henry Formation. East Altons wells are less than 1 mile from the site.

River Discontinuity

Because the site is on the west side of the Wood River and the "Target" municipal wells are on the east side of the river, it must be shown that the Wood River does not completely transect the aquifer of concern (i.e. the Henry Formation) before those populations can be counted in the HRS score. Well logs (attached) from either side of the river show a sand and gravel deposit from an approximate elevation of 420' above sea level to at least 365' above sea level. This is the Henry Formation; Well # 1 American Messer Corp. (attached) indicates a thickness of 105 feet. The Wood River at the site has an elevation of 410' above sea level (from Topo map) and a depth of 1-2 feet. This puts the bottom elevation of the river channel at approximately 408'. This is not enough to completely transect the aquifer of concern, therefore the river is not a discontinuity and East Alton, Wood River, and Rosewood Heights populations should be counted.

KP:6W

Sample collected from Well No.1 (South Well) after pumping for

NON-RESPONSIVE

White Copy –
Ill. Dept. of Publi.. .ealth
Yellow Copy – Well Contractor
Blue Copy – Well Owner

FILL IN ALL PERTINENT INFORMATION REQUESTED ..ID MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL / WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

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ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

GEOLOGICAL AND WATER SURVEYS WELL RECORD

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